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2. A method in accordance with claim 1 wherein the wireless identification device comprises an integrated circuit including a receiver, a modulator, and a microprocessor in communication with the receiver and modulator.

3. A method in accordance with claim 1 wherein when a subgroup contains both a device that is within communications range of the interrogator, and a device that is not within communications range of the interrogator, the device that is not within communications range of the interrogator does not respond to the command.

4. A method in accordance with claim 1 wherein when a subgroup contains both a device that is within communications range of the interrogator, and a device that is not within communications range of the interrogator, the device that is within communications range of the interrogator responds to the command.

5. A method in accordance with claim 1 wherein a device in a subgroup changes between being within communications range of the interrogator and not being within communications range, over time.

6. A method of addressing messages from an interrogator to a selected one or more of a number of communications devices, the method comprising:

establishing for respective devices unique identification numbers;

causing the devices to select random values, wherein respective devices choose random values independently of random values selected by the other devices; transmitting a communication, from the interrogator, requesting devices having random values within a specified group of random values to respond;

receiving the communication at multiple devices, devices receiving the communication respectively determining if the random value chosen by the device falls within the specified group and, if so, sending a reply to the interrogator; and

determining using the interrogator if a collision occurred between devices that sent a reply and, if so, creating a new, smaller, specified group, using a search tree, that is one quarter of the first mentioned specified group, wherein at least one level of a search tree is skipped.

7. A method of addressing messages from an interrogator to a selected one or more of a number of communications devices in accordance with claim 6 wherein sending a reply to the interrogator comprises transmitting the unique identification number of the device sending the reply.

8. A method of addressing messages from an interrogator to a selected one or more of a number of communications devices in accordance with claim 6 wherein sending a reply to the interrogator comprises transmitting the random value of the device sending the reply.

9. A method of addressing messages from an interrogator to a selected one or more of a number of communications devices in accordance with claim 6 wherein sending a reply to the interrogator comprises transmitting both the random value of the device sending the reply and the unique identification number of the device sending the reply.

10. A method of addressing messages from an interrogator to a selected one or more of a number of communications devices in accordance with claim 6 wherein, after receiving a reply without collision from a device, the interrogator sends a command individually addressed to that device.

11. A method of addressing messages from a transponder to a selected one or more of a number of communications devices, the method comprising:

causing the devices to select random values, wherein respective devices choose random values independently of random values selected by the other devices;

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transmitting a communication, from the transponder, requesting devices having random values within a specified group of a plurality of possible groups of random values to respond, the specified group being less than or equal to the entire set of random values, the plurality of possible groups being organized in a binary tree having a plurality of levels, wherein groups of random values decrease in size with each level descended;

devices receiving the communication respectively determining if the random value chosen by the device falls within the specified group and, if so, sending a reply to the transponder; and, if not, not sending a reply; and determining using the transponder if a collision occurred between devices that sent a reply and, if so, creating a new, smaller, specified group by descending at least two levels in the tree.

12. A method of addressing messages from a transponder to a selected one or more of a number of communications devices in accordance with claim 11 and further comprising establishing unique identification numbers for respective devices.

13. A method of addressing messages from a transponder to a selected one or more of a number of communications devices in accordance with claim 12 and further including establishing a predetermined number of bits to be used for the random values.

14. A method of addressing messages from a transponder to a selected one or more of a number of communications devices in accordance with claim 13 wherein the predetermined number of bits to be used for the random values comprises sixteen bits.

15. A method of addressing messages from a transponder to a selected one or more of a number of communications devices in accordance with claim 13 wherein devices sending a reply to the transponder do so within a randomly selected time slot of a number of slots.

16. A method of addressing messages from an interrogator to a selected one or more of a number of RFID devices, the method comprising:

establishing for respective devices unique identification numbers;

causing the devices to select random values, wherein respective devices choose random values independently of random values selected by the other devices; transmitting from the interrogator a command requesting devices having random values within a specified group of a plurality of possible groups of random values to respond, the specified group being less than or equal to the entire set of random values, the plurality of possible groups being organized in a binary tree having a plurality of levels, wherein groups of random values decrease in size with each level;

receiving the command at multiple of the devices, the devices receiving the command respectively determining if the random value chosen by the device falls within the specified group and, only if so, sending a reply to the interrogator, wherein sending a reply to the interrogator comprises transmitting both the random value of the device sending the reply and the unique identification number of the device sending the reply; determining using the interrogator if a collision occurred between devices that sent a reply and, if so, creating a new, smaller, specified group using a level of the tree different from the level used in the interrogator transmitting, wherein at least one level of the tree is

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skipped, the interrogator transmitting a command requesting devices having random values within the new specified group of random values to respond; and if a reply without collision is received from a device, the interrogator subsequently sending a command individually addressed to that device.

17. A method of addressing messages from an interrogator to a selected one or more of a number of RFID devices in accordance with claim 16 wherein every second level is skipped.

18. A method of addressing messages from an interrogator to a selected one or more of a number of RFID devices in accordance with claim 16 wherein the unique identification numbers are respectively defined by a predetermined number of bits.

19. A method of addressing messages from an interrogator to a selected one or more of a number of RFID devices in accordance with claim 16 wherein the unique identification numbers are respectively defined by a predetermined number of bits and wherein the random values are respectively defined by a predetermined number of bits.

20. A method of addressing messages from an interrogator to a selected one or more of a number of RFID devices in accordance with claim 16 and further comprising, after the interrogator transmits a command requesting devices having random values within the new specified group of random values to respond:

devices receiving the command respectively determining if their chosen random values fall within the new smaller specified group and, if so, sending a reply to the interrogator.

21. A method of addressing messages from an interrogator to a selected one or more of a number of RFID devices in accordance with claim 20 and further comprising, after the interrogator transmits a command requesting devices having random values within the new specified group of random values to respond:

determining if a collision occurred between devices that sent a reply and, if so, creating a new specified group and repeating the transmitting of the command requesting devices having random values within a specified group of random values to respond using different

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specified groups until all of the devices within communications range are identified.

22. A system comprising:

an interrogator;

a number of communications devices capable of wireless communications with the interrogator;

means for establishing for respective devices unique identification numbers respectively having the first predetermined number of bits;

means for causing the devices to select random values, wherein respective devices choose random values independently of random values selected by the other devices;

means for causing the interrogator to transmit a command requesting devices having random values within a specified group of random values to respond;

means for causing devices receiving the command to determine if their chosen random values fall within the specified group and, if so, to send a reply to the interrogator; and

means for causing the interrogator to determine if a collision occurred between devices that sent a reply and, if so, to create a new, smaller, specified group that is one quarter of the first mentioned specified group, wherein at least one level of the tree is skipped.

23. A system in accordance with claim 22 wherein sending a reply to the interrogator comprises transmitting the unique identification number of the device sending the reply.

24. A system in accordance with claim 22 wherein sending a reply to the interrogator comprises transmitting the random value of the device sending the reply.

25. A system in accordance with claim 22 wherein sending a reply to the interrogator comprises transmitting both the random value of the device sending the reply and the unique identification number of the device sending the reply.

26. A system in accordance with claim 22 wherein the interrogator further includes means for, after receiving a reply without collision from a device, sending a command individually addressed to that device.

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